

Patent claims

1. An implant with antibiotic long-term action, in particular a vascular prosthesis, with a basic structure which defines the form of the implant and which is made of substantially non-absorbable or only slowly absorbable polymer material and of a coating of an absorbable material, with a layer of metallic silver situated on the polymer material and underneath the coating.
2. The implant as claimed in claim 1, wherein the silver layer adheres firmly on the polymer material, and in particular is anchored in it.
3. The implant as claimed in claim 1 or 2, wherein the silver layer is vapor-deposited onto the polymer surface.
4. The implant as claimed in one of the preceding claims, wherein silver atoms of the silver layer are impressed into the polymer surface of the basic structure, and in particular are forced into the polymer surface by bombardment with argon ions.
5. The implant as claimed in one of the preceding claims, wherein the silver layer is a substantially closed layer and in particular is of such thickness that in vivo it has a dwell time of more than one year, in particular of more than two years, and releases silver ions during this time.
6. The implant as claimed in one of the preceding claims, wherein the silver layer is of such thickness that, as it breaks down in the body, a maximum of about 5 to 10%, in particular a maximum

of 7 to 8%, of the layer is removed per annum.

- 5 7. The implant as claimed in one of the preceding claims, wherein the silver layer has a layer thickness of 2500 to 1000 Å, in particular of ca. 1300 Å.
- 10 8. The implant as claimed in one of the preceding claims, wherein the silver layer is composed exclusively of elemental silver.
- 15 9. The implant as claimed in one of the preceding claims, wherein the basic structure is porous, the silver layer leaves the pores open, and the absorbable layer is an impregnation which seals the pores of the implant.
- 20 10. The implant as claimed in one of the preceding claims, wherein the absorbable layer is formed from optionally crosslinked biological material.
- 25 11. The implant as claimed in one of the preceding claims, wherein the absorbable layer is made of synthetic polymers and copolymers which are absorbable, in particular degradable, *in vivo*, in particular those comprising at least one hydroxy acid.
- 30 12. The implant as claimed in one of the preceding claims, wherein the composition of the absorbable layer is chosen such that it is absorbed at the latest after four months, in particular at the latest after ca. 40 days.
- 35 13. The implant as claimed in one of the preceding claims, wherein the coating of absorbable material in turn contains active substances which are released during absorption of the absorbable

layer.

14. The implant as claimed in one of the preceding claims, wherein the basic structure is made from a textile material, in particular a formed-loop knit.
15. The implant as claimed in claim 14, wherein the fibers of the textile basic structure are coated with silver at least at the locations which point toward at least one surface of the implant, substantially the entire surface of the fibers preferably being coated with silver.
16. The implant as claimed in one of claims 1 through 13, wherein the basic structure is made from a sintered material, in particular expanded polytetrafluoroethylene.
17. The implant as claimed in one of the preceding claims, wherein said implant is designed as a prosthesis for replacement of hollow organs, in particular as a vascular prosthesis.